

Attorney Docket No: 24518/2012 (Serial No.:09/09/771,708)

Balasubramanian *et al.*

Filed: January 30, 2001

Amendment and Reply

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AMENDMENTS

In the Specification

Please replace the paragraph at page 1, lines 2-4, with the following paragraph:

This Application is a continuation in part of PCT/GB99/02487, which designated the United States and was filed July 30, 1999, and was published in English. The present application also claims benefit of United Kingdom App. No. 9822670.7, filed October 16, 1998, and European App. No. 98306094.8, filed July 30, 1998. The entire teachings of the above applications are incorporated herein by reference.

Amendments to the specification are indicated in the attached "Marked Up Version of Amendments" (page i).

In the Claims

Please cancel claims 45 and 46 and amend claims 43, 44 and 47-51 as follows.

Amendments to the claims are indicated in the attached "Marked Up Version of Amendments" (pages ii-iii).

43. (Amended) An array of nucleic acids comprising polynucleotide molecules immobilized on a solid surface, wherein each said polynucleotide molecule comprises a polynucleotide duplex covalently linked to form a hairpin loop structure, one end of which comprises a target polynucleotide, and adjacent polynucleotide molecules immobilized on the array are separated by a distance of at least 100nm.
44. (Amended) An array according to claim 43, wherein immobilization to the solid surface is via covalent attachment.

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47. (Amended) An array according to claim 43, wherein said molecules are separated by a distance of at least 250nm.
48. (Amended) An array according to claim 43, wherein said surface density is 10^6 molecules per cm^2 .
49. (Amended) An array according to claim 48, wherein said density is 10^7 to 10^8 molecules per cm^2 .
50. (Amended) An array according to claim 43, wherein at least one polynucleotide molecule immobilized on the solid surface has a second polynucleotide hybridized thereto.
51. (Amended) An array according to claim 43, wherein at least one polynucleotide molecule immobilized on the solid surface is of known sequence.

Please add new claims 52-54 as follows:

52. (New) An array according to claim 43, wherein said surface density is 10^9 molecules per cm^2 .
53. (New) An array according to claim 43, wherein the molecules are individually resolvable by optical microscopy.
54. (New) An array according to claim 43, wherein the polynucleotide duplex is covalently linked by a polyethylene glycol (PEG) molecule to form a hairpin loop structure.

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Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

Please amend claims 43, 44 and 47-51 as follows:

43. (Amended) A [device comprising a]n array of nucleic acids comprising polynucleotide molecules immobilized on a solid surface, wherein each said polynucleotide molecule comprises a polynucleotide duplex covalently linked to form a hairpin loop structure, one end of which comprises a target polynucleotide, and adjacent polynucleotide molecules immobilized on the array are separated by a distance of at least 100nm [has a surface density which allows the target polynucleotides to be individually resolved].
44. (Amended) An array [A device] according to claim 43, wherein immobilization to the solid surface is via covalent attachment.
47. (Amended) An array [A device] according to claim 43[5], wherein said adjacent [the] molecules are separated by a distance of at least 250nm.
48. (Amended) An array [A device] according to claim 43, wherein said surface [having a] density is [of from] 10^6 [to 10^9] molecules per cm^2 .
49. (Amended) An array [A device] according to claim 48, wherein said [the] density is [from] 10^7 to 10^8 molecules per cm^2 .
50. (Amended) An array [A device] according to claim 43, wherein at least one [arrayed] polynucleotide molecule immobilized on the solid surface has a second polynucleotide hybridized thereto.

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51. (Amended) An array [A device] according to claim 43, wherein at least one [the arrayed] polynucleotide molecule immobilized on the solid surface is of known sequence.

Please add new claims 52-54 as follows:

52. (New) An array according to claim 43, wherein said surface density is 10^9 molecules per cm^2 .
53. (New) An array according to claim 43, wherein the molecules are individually resolvable by optical microscopy.
54. (New) An array according to claim 43, wherein the polynucleotide duplex is covalently linked by a psoralen molecule to form a hairpin loop structure.

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